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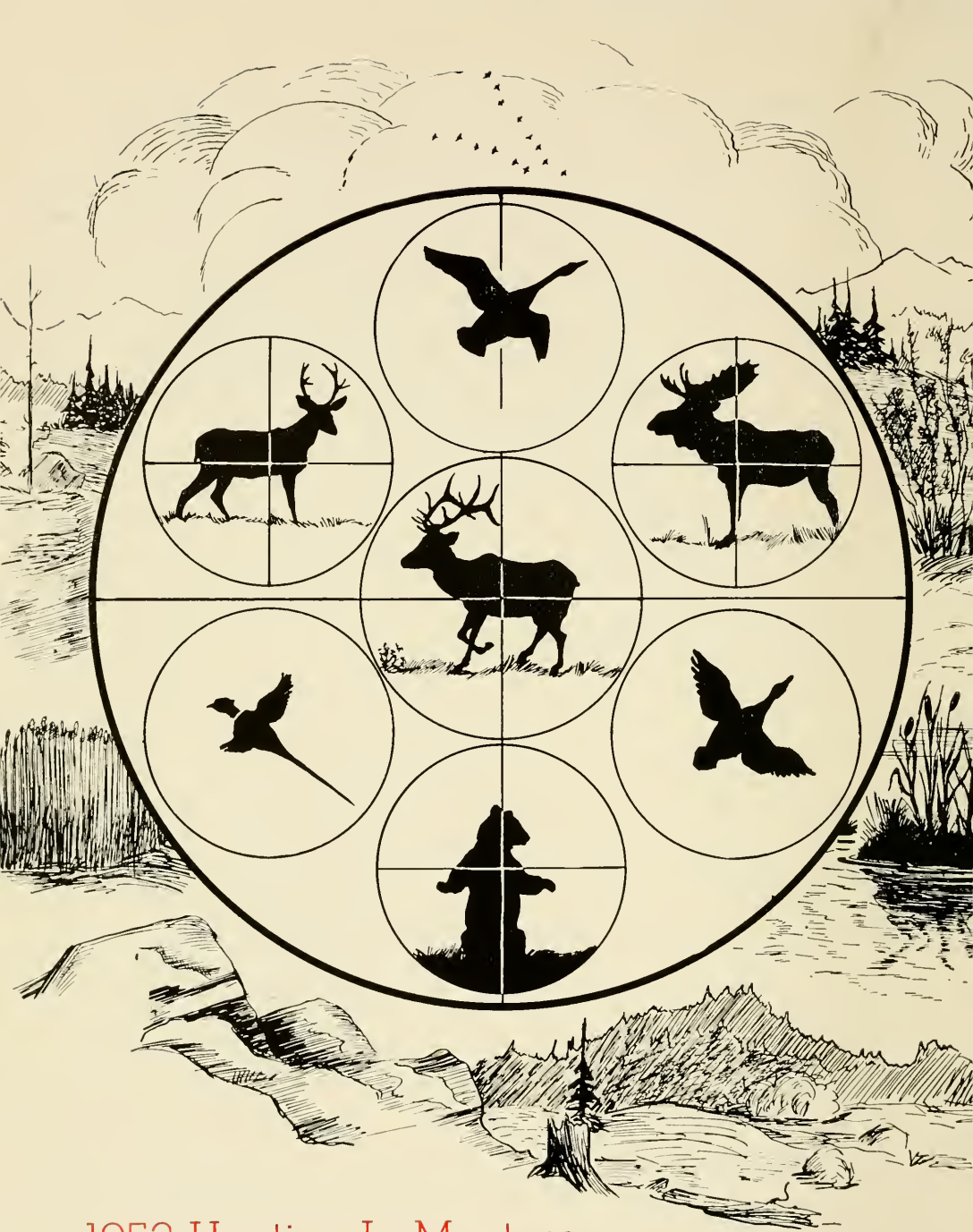
MONTANA Wildlife

STATE DOCUMENTS

VOL. II—NO. 3

Official Publication
Montana Fish and Game Department



1952 Hunting In Montana

DEER—Regular Season—October 15-November 15, inclusive, plus special seasons to be set by the Fish and Game Commission.
ELK—Regular Season—October 15-November 15, inclusive, plus special seasons to be set by the Fish and Game Commission.
BEAR—Concurrent with regular elk season, ending November 15.
GOAT—First half: September 15-19, inclusive; Second half: October 15-19, inclusive.
MOOSE—Last area closes December 15; hunting by special permit only.
ANTELOPE—Last area closes November 16; hunting by special permit only.
MIGRATORY WATERFOWL—60-day continuous season; October 10-December 8, inclusive.
UPLAND GAME BIRDS—(Pheasant and Hungarian partridge) October 26--November 11.

MONTANA FISH AND GAME DEPARTMENT

Official Publication

State of Montana

John W. Bonner, Governor

MONTANA FISH AND GAME COMMISSION

Edward M. Boyes, Chairman

Walter Banka — Thomas S. Morgan

William T. Sweet — Manson H. Bailey, Jr.

Robert H. Lambeth, Secretary

The Commissioner's Message

Hunters who today travel from all parts of the state and other parts of the nation to enjoy the excellent antelope and deer hunting afforded in eastern Montana may find difficult to believe that a short forty years ago, these now abundant species were in danger of complete annihilation.

Between 1880 and the early 1920s, game hunters from all over the world had so seriously drained the wildlife resources in this "Land of the Long Look" that from a one-time Great Plains paradise (which boasted bison, deer, elk, antelope, sheep and even grizzlies) it became unbelievably depleted of game.

Fortunately, a few far-sighted individuals were able to halt irresponsible hunting practices with timely regulations and bag limits. But the vast herds of buffalo were gone, the Audubon sheep extinct, many of the deer and all of the elk, bear and Big Horn sheep had fled to the protection of the higher mountain regions.

Only in the past twenty years has definite progress been made in building up the remaining species, primarily mule deer and antelope. It has been a long, hard, often heart-breaking fight, but today's populations and harvests of deer and antelope are a living tribute to the accomplishments of proper wildlife management.

Manson H. Bailey, Jr.

Montana Wildlife

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Autumn Issue — 1952

Cover Pages

In Montana this year, thousands of hunters thrilled to the sight of a big game animal in the cross-hairs of their 'scope. Mule deer, such as the buck on our front cover, are by far the most abundant game species found in the state. Most recent population estimates for Montana show well over 150,000 animals with heaviest concentrations in the Big and Little Belt Mountains, the Crazy Mountains, Beaverhead County, Beartooth Plateau, the Missouri River Breaks and throughout western Montana.

Although this species is commonly called "mule" deer from their characteristically large ears, the name "blacktail" is often erroneously applied because of the small black hairs at the tip of their otherwise white tail. However, the true Columbian Blacktail Deer is found only in the Western Coastal area of the United States.

McKEE PRINT

EDITORIAL:

Why Either Sex Seasons Are Necessary

Mere mention of shooting doe deer greatly disturbs some people.

Part of the objection is sentiment and part a sincere, but unfounded, belief that doe seasons will jeopardize the future of Montana's deer herds.

The facts, however, as shown in this state as well as most other states where large deer populations exist, clearly indicate that unless some female deer are harvested, herds actually will be in danger—of starvation.

One of the most obvious facts, and often the most difficult for sportsmen to realize, is that deer damage to forage often takes a greater toll of deer than do the hunters.

In Montana, there is a definite limit to areas where the big game must spend the critical winter months when snow is deep and temperatures low. Such areas are called winter ranges and represent only about ten percent of total available range.

Thus, with a definite limitation on range, a corresponding limit comes into effect on the amount of food available. An insidious problem then arises from the fact that repeated, heavy use of forage plants often results in less and less forage production which will support fewer and fewer deer.

The end result is loss of many hundreds of deer by what must be a slow agonizing death—starvation.

The positive and brighter side of this story shows that a well-managed herd of big game living on good range may actually have a higher rate of reproduction than a herd living on poor range.

This was pointed out in Montana when reproductive organs of female deer were collected from hunters in several areas. Analysis of these organs by biologists determined the number of fawns produced by does.

It was found that a definite relationship existed between the condition and abundance of forage and the average number of fawns produced. In one case, where food was very scarce, the does averaged only one fawn while in an adjacent area, each breeding doe produced an average of nearly two fawns.

No game manager would ever advocate scrapping the buck law or declare that the either sex season is justifiable without exception. For some areas will support buck hunting only, while others will suffer if surplus does are not harvested.

The point which should be clearly understood by sportsmen is that game laws must be flexible enough to allow the application of sound management principles in solving each individual wildlife problem as it arises.

Policy Engineers:—Your

Although Montana's 1895 legislature created a Commission to regulate fishing in the state, the Montana Fish and Game Commission as it functions today was not approved until 1921. Since then, this five-man group has successfully carried out the big job of formulating adequate regulations and management policies to protect, preserve and propagate our wildlife.

All of Montana's wildlife resources—fish, game, waterfowl, game and non-game birds and fur-bearing animals—are under the jurisdiction of the Commission. Any decision of this group affecting any of these species is reached only after carefully weighing the facts in the problem and exhaustive study of recommendations from all interested groups which include sportsmen, stockmen, ranchers, land owners and department biologists.

Commission Chairman Edward M. Boyes of Libby represents the counties in District One—Lincoln, Flathead, Sanders, Lake, Lewis and Clark, Mineral, Missoula, Powell Ravalli and Granite.

Born in Scotland, Mr. Boyes has lived in Libby for the past 35 years where he is depot agent for the Great Northern Railway. He is an active member of the wildlife committee of the Libby Chamber of Commerce and for many years participated in Montana Wildlife Federation activity.

Edward M. Boyes

Mr. Boyes has ably assisted in fish planting programs of the Department in many remote and inaccessible lake and feeder stream areas south of Libby. He has also helped in elk planting operations in many parts of Lincoln county.

He is a Shriner, a member of the Lions Club, Kiwanis and a former mayor of Libby.

As Tom Morgan will tell you, he came to Montana from Pennsylvania in 1909 to verify for himself the fabulous reports of the hunting and fishing in this state.

Liking what he found, he has since become well-acquainted with fish and game problems in various sections of the state, having lived in Havre, Great Falls, Deer Lodge and for the past 30 years in Miles City.

In his 63 years, Mr. Morgan has fished and hunted throughout much of the United States but considers Montana a leader in these outdoor sports.

Thomas S. Morgan

Now retired, he is a member of the Milwaukee Railroad Service Club in Miles City, Masonic Lodge, Elks Lodge, and has been affiliated with rod and gun clubs for more than 50 years.

Mr. Morgan represents the counties in District Five—Golden Valley, Musselshell, Stillwater, Carbon, Big Horn, Yellowstone, Treasure, Rosebud, Custer, Powder River, Carter, Fallon and Prairie.

Fish and Game Commission

Commissioners are appointed by the Governor of Montana for terms of four years and may be re-appointed for additional terms of office. Chosen primarily for their keen interest and experience in wildlife conservation, they receive no compensation for their services except for expenses incurred between their homes and Helena where meetings are held every 30 days.

Continuing from the previous issue of **Montana Wildlife,** which featured short biographical sketches of Commissioners William T. Sweet of Butte and Manson H. Bailey, Jr., of Glasgow, brief introductions to the other members of the Commission are presented on these pages to better acquaint Montana sportsmen with the "men who make the rules."

Walter Banka came to Montana with his parents in 1910 to what is now Pondera County. Since then, he has proved up a homestead, worked in the mining and lumber industries and operated a dry land farm and stock ranch until retiring 8 years ago.

Walter Banka

During the legislative session of 1941, as representative from Pondera county, he introduced House Bill 55, assent to the Pittman Robertson Act, and was on the House Fish and Game Committee.

As Commissioner for District Three, he represents Glacier, Toole, Liberty, Hill, Pondera, Teton, Chouteau, Cascade, Judith Basin, Fergus, Blaine, Meagher and Wheatland Counties.

In addition to his duties as Commissioner, Mr. Banka travels extensively each year to Canada and Mexico for hunting and fishing and has followed migratory birds from the Arctic Circle to the Mexican wintering grounds. He is a member of several sportsman and fraternal organizations and enjoys "shooting" wildlife with 16mm movie camera.

Selected by the Fish and Game Commission November 1, 1949, R. H. Lambeth not only became Secretary of the Commission but the youngest State Game Warden in Montana history. Prior to this post, he was district warden supervisor in Missoula for one year and was a deputy game warden at Polson from 1939 to 1948 with the exception of three years in the Army Air Force from 1942-45.

Robert H. Lambeth

Within the Department, it is his job to coordinate Commission decisions and recommendations with activities of the enforcement, fisheries and wildlife restoration divisions. Well qualified in the field of wildlife management, Mr. Lambeth considers the system of competitive examinations and pre-duty training for all game wardens, established in 1951, one of the best examples of improved department operation.

A native of Polson where he received his secondary education, he has also attended Montana State College and is a member of Elks and Masonic Lodges.

ABSOLUTELY
NO
HUNTING
HUNTING
BY
PERMISSION
Craig

Montana Sportsmen's Projects

THIRD IN A SERIES

Managing the wildlife resources of a state the size of Montana can have its headaches, but many of these problems can and have been reduced as a result of outstanding help and cooperation from local sportsmen's organizations.

A good example of this type of assistance was instituted by the Helena Wildlife Association last year when a complex land management problem arose in the Canyon Creek-Dearborn area of Lewis and Clark County.

Acting on the request of land owners in that vicinity, the Montana Fish and Game Commission had authorized a hunter's choice season there to harvest surplus deer thus balancing the herd with available forage as well as relieving pressure on that area's agricultural crops.

To be effective, hunters had to be admitted to the area which consisted almost entirely of private land. But many of the land owners, fearing for the safety of their livestock under such a heavy influx of hunters, had posted almost all of their land with "No Hunting" signs.

The Helena club took the lead in accepting the challenge to iron out the wrinkles in this complicated problem. President Lou Hoffman appointed Al Riegel and Virgil Janes to arrange meetings with local ranchers and to suggest that each ranch designate an area for the sole use of livestock.

These areas would be respected by hunters and stock would be free from disturbances of high-powered rifles.

At this time the Big Game Committee of the Cascade County Sportsmen's Club offered their assistance in the problem. It took two meetings to present an acceptable plan to the land owners but the sportsmen's suggestions finally were approved.

Then came the task of replacing the "No Hunting" signs with "No Hunting Or Trespassing Without Permission" signs. Through radio announcements, newspaper advertisements and word of mouth, prospective hunters of the area were advised to inquire at each ranch for information on which pasture was closed for the protection of the stock it contained and which land remained open for hunting.

As a result of these attempts to sincerely recognize the problem of the other fellow, the highly successful hunt proceeded without a hitch.

This is just one concrete example of the Landowner--Sportsmen-Fish and Game triangle working together for common benefits. Other clubs in the state have accomplished similar projects that have resulted in better relationships and more opened hunting territory.

The future of hunting is in the hands of the sportsmen. If they make an all-out effort to build the confidence and friendship of Montana land owners, plenty of hunting area is assured. Furthermore, if the vast majority of the hunters who do respect the rights of the farmer and rancher will aid in apprehending the few who violate the rules of common decency, this relationship can be improved everywhere.

What better project could any sportsmen's club have than making friends of the folks on whose land much of our hunting must be done?

Is The Size Limit Fair On Eastern Brook Trout?

by Charles K. Phenicie
Chief Fisheries Biologist

A minimum size limit of seven inches, designed to allow trout to spawn at least once, has been a part of the Montana fishing regulations for some time. However, in regard to eastern brook trout, this regulation is especially fallacious and may be considered detrimental to the best interests of many Montana sportsmen.

A brief examination of data from a few Montana streams will point up disadvantages of a seven-inch limit.

In the northwestern corner of the state near Eureka is Pinkham Creek, a tributary of the Kootenai River. In 1951, District Biologist Frank Stefanich made a census of the stream's population. Of the 226 brook trout he obtained with his electric shocker, only 15 fish or 6.6 percent were of legal size.

District Biologist Nels Thoreson of Belt made similar surveys in his area in the same year. In the vicinity of the Arthur Ranch on Big Elk Creek above Twodot, he secured 44 brook trout of which only four fish or 9.1 percent were of legal length. Similarly in Sheep Creek, north of White Sulphur Springs, only 21 percent of the 168 eastern brook trout taken with the electric shocker were of legal size.

These figures should be compared with similar ones for other species to gain their full meaning. Lower down on Big Elk Creek, Thoreson found that the population graded into a predominance of brown trout.

Forty-six percent of these fish were of legal length. Forty percent of the rainbows of Sheep Creek were above legal length, as were 67 percent of the whitefish, 50 percent of the cutthroats and 50 percent of the rainbow-cutthroat hybrids.

Figures 1, 2 and 3 on the opposite page, represent the length distributions of the brook trout in Pinkham, Big Elk and Sheep Creeks.

In Figure 1, note the large number of brooks that constitute the five and six-inch size groups. Then note the small number in the seven and eight-inch groups. The fish in the smaller size groups are large enough to be caught and used by the anglers, and yet approximately 80 percent of these will be allowed to die unharvested because they have not attained a seven-inch length. Only about 20 percent of the brooks survive to a harvestable size.

Figure 2 shows a similar situation for the brooks of Big Elk Creek, and Figure 3 represents the brook population in Sheep Creek.

This is not a biased picture. The same has been found in waters spread all the way from Red Lodge to Troy. As a rule the few bodies of water wherein good sized eastern brook trout are found are those where natural spawning is limited.

In some waters with the initial

introduction of the brook trout, very large fish were caught, but when they had reproduced themselves for a few years, the size of the fish taken by anglers decreased progressively.

Investigations also show that these low ebbs in the fishery are accompanied by the fish maturing at very small sizes. A sample of 76 brook trout was taken from Slough Lake, south of Columbus in 1951, by two men fishing for about two hours with hook and line. Not only was the average size of their catch only seven inches, but between 43 and 68 percent of the brooks under legal length were mature while of those over legal length, only 16 to 19 percent were still immature.

The unknown factors in brook trout management still exceed the recorded facts. It does appear from the evidence at hand, however, that the large number of sub-legal brook trout is partially responsible for the limited number that attain legal size.

The seven-inch legal size limit is indeed serving its purpose in allowing the brooks to spawn once before dying. It is doing even more—for it allows the greater majority to spawn and die without ever reaching the legal possession size!

The obvious solution to this problem is to remove the seven-inch length limit. This may meet with a storm of protest from sincere sportsmen who feel such action would be detrimental to the trout population. However, evidence indicates that this would be a wise move in that the fishermen would be permitted to catch many hundreds of fish that otherwise die from natural causes.

Good fish management should be directed toward complete utilization of harvestable fish without endangering supplies of the breeding stock.

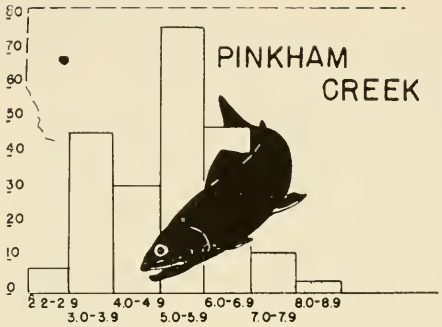


Figure I

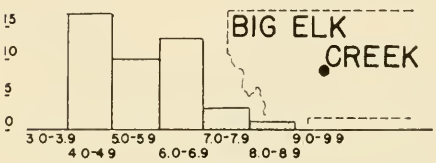


Figure II

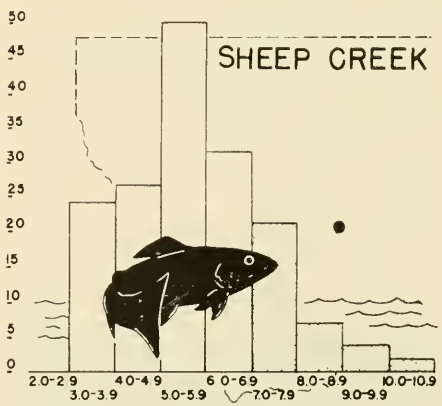
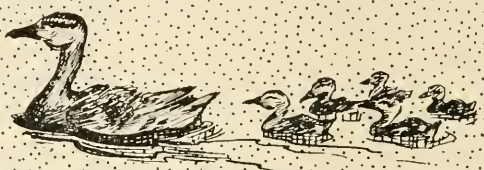


Figure III

MORE DUCKS FOR EASTERN MONTANA



By Richard H. Smith
Field Waterfoul Biologist

Since the early 1940s, widespread stock reservoir and farm pond construction programs have produced thousands of new water areas in eastern Montana.

Where 20 years ago water was scarce or lacking, reservoirs now intersperse the semi-arid portions of the state, ranging from one pond every four or five square miles to several ponds per square mile in some areas.

Since these reservoirs have been of considerable value to many forms of wildlife, and particularly to waterfowl, the Montana Fish and Game Department initiated a project in the summer of 1949 to study the relationship of newly created water areas to waterfowl production.

About 150 ponds were chosen in representative areas (50 each near Circle, Hammond and Roundup) for continued yearly studies. Information has been gathered pertaining to the physical and vegetative characteristics of the ponds and their relationship to waterfowl production.

Observations have been made each succeeding summer on these sample areas to determine the species and total numbers of ducks raised and also production trends from year to year.

The average surface acreage of the study ponds at "normal water level" was 3.2 acres. Moisture conditions have been generally favorable for waterfowl production in the eastern part of the state during the last three summers.

The reservoirs are used during both spring and fall migrations by large numbers of ducks and occasionally by geese. Seven species of puddle ducks (ducks that must feed in shallow water) have been observed with broods on study ponds.

In order of importance, these puddle ducks are mallard, pintail, blue-winged teal, baldpate, gadwall, green-winged teal and shoveller. The mallard, pintail and blue-winged teal produce about 75% of the ducks each

year and the remaining four species provide the other 25%.

Over a four-year period, the blue-winged teal have raised the largest average broods, the pintail the smallest. The diving ducks (redhead, canvas back, ruddy, scaup, etc.) have not been observed nesting on the study areas as these species usually require larger water areas and more extensive emergent cover.

Yearly production figures (the actual number of ducks raised to flying stage are based on brood counts. These counts are made at periodic intervals throughout the summer to insure that both early and late broods are counted.

During the last two summers, an average of 1.7 broods were raised on each pond. Broods of all species averaged slightly over five ducks per brood by the time they reached the flying stage. This is about nine ducks for hunters from each pond.

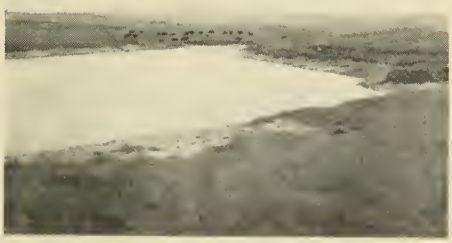
Figuring production in 1951 and 1952 on an area basis, about two ducks per square mile were raised within the three study areas which totaled 518 square miles. Although the figure is small, the importance is manifest when the larger area involved is considered.

Approximately six out of 10 of the study ponds supported one or more broods during the last two years. Studies designed to determine which types and sizes of areas were most desirable as breeding areas showed that 90% of the ponds that did not produce any broods were less than three acres in size. Thus, larger ponds, affording more permanency and security, raised more broods.

The studies also indicated that the presence or absence of emergent cover around the edge of a reservoir was an important factor in brood production.

Reservoirs with sufficient protective cover around the edges raised more broods than those with barren shorelines or where the cover had been grazed down by livestock. Thus the protection of this cover through fencing may be of considerable importance in the management of waterfowl breeding ground habitat.

Reservoir construction has not only increased waterfowl production over large areas in recent years, but has also created many new hunting areas which are helping the Montana hunter take a fair share of the ducks produced here.



Shorelines grazed bare by livestock (above) are not conducive to waterfowl breeding.

Sufficient cover, adequately protected (above), will greatly encourage brood production.

Vernon Craig (kneeling left) of the Montana Fish and Game Department explained to a group of campers how to construct farm ponds and stock reservoirs to provide more water areas for fish and waterfowl habitat.

International aspects of conservat
bers of the International Farm Y
the United States to study farm
right, they are: Francisco Rico fr
New Zealand and Pek

Youth Conserv

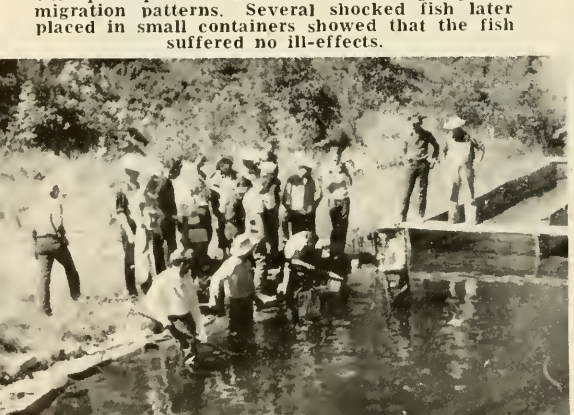
Recognizing a definite need to acquaint Montana's youth with basic principles of conservation practices, representatives of state and federal conservation agencies have worked cooperatively for the past several years toward this educational goal.

One of the best examples of this effort is the annual 4-H conservation camp, now in its sixth year, attended by teen-age boys and girls representing more than half of Montana's 56 counties.

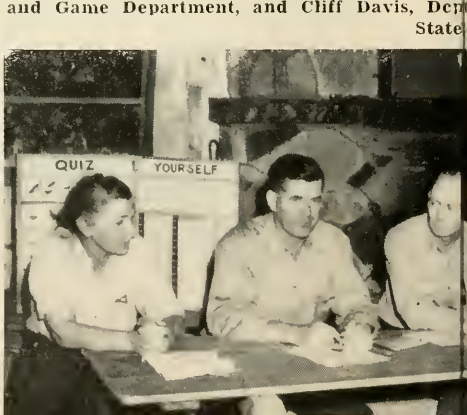
This year, 32 boys and 32 girls were selected from their own 4-H groups to attend the camp at Little Bitterroot Lake in Flathead County, July 7 through 11. In addition to the 4-H members, attendance included eight 4-H leaders, 14 county extension agents, five guests and the 10 members of the resource staff.

Co-directors of the camp were Margaret Kohl, Assistant State 4-H Club leader from Bozeman, and Karl Parker, Range Management

Electric fish shocking equipment of the Montana Fish and Game Department was demonstrated to campers by Frank Stefanich. This method of obtaining fish for tagging purposes is the principal means of determining species migration patterns. Several shocked fish later placed in small containers showed that the fish suffered no ill-effects.



Directors of camp activity were (left to right
of Montana State College; E. F. Barry and Pa
C. Cech from the Forest Nursery of Montana
and Game Department, and Cliff Davis, Dep
State



were pointed out by three mem-
Exchange visiting rural areas in
d conservation methods. Left to
Puerto Rico, Russell Gaston from
Hujala from Finland.

One of the special interest groups (above) built a model forest and farm to show the relationships of forest-watershed-soil conservation measures. Another group (background) studied a different phase in this type of conservation.

tion Education

Specialist from Bozeman. Assisting in the presentation of conservation material were representatives of the Fish and Game Department, Forest Service, Flathead Soil Conservation District, Montana State University and Montana State College.

Some of the many activities enjoyed by campers during their four full days of outdoor living are shown on these pages. From their early morning bird identification hikes to a field trip to nearby Hungry Horse Dam, the group set a fast pace in learning first-hand the meaning of this year's camp theme—"Living Tomorrow Depends Upon Conservation Today."

Next year, more boys and girls are expected for these and other conservation classes, and plans are being formulated for similar camps in other sections of the state.

ow), Frances McDonald, Rural Health Specialist
A. Ingebo of the U. S. Forest Service; Franklin
tate University; Ken Thompson, Montana Fish
ment of Zoology and Entomology at Montana
ollege.

On the last day of camp leaders of each special group fitted together jigsaw puzzle pieces, painted by Vern Craig, representing each conservation agency to form a composite picture (below). Campers learned that conservation of any one natural resource is directly related to conservation of other such resources.

Few people are familiar with the arboreal characteristics of marten. They are, however, almost as much at home in trees (above) as on the ground.

MARTEN IN MONTANA

by Fletcher E. Newby, Fur Biologist

Although from point of population and yearly trapping revenue, the marten bows to more valuable fur animals, the mink and beaver, this colorful animal constitutes an important contribution to Montana's fur industry and is a living symbol of the wilderness areas of the state. Possibilities for increasing the production and value of Montana's marten populations exist and are being studied by the Fur Resources Section of the Fish and Game Department.

Two sub-species of marten are found in Montana of which the British Columbia marten, **Martes americana abietinoides,** is about 20 percent more valuable than is the Pacific marten, **Martes americana caurina.** During the 1950-51 trapping season, the average price of the more valuable marten was $22.00 per pelt, while the poorer type averaged $18.25. Approximately 35 percent of the marten catch in the past two seasons was composed of the better pelts. These are taken chiefly in Lincoln and Flathead counties.

Pelts of marten taken from localities where the two varieties of marten interbreed naturally are intermediate in value. This suggests that it would be possible and desirable to improve the pelt quality of the pure Pacific type by extending or introducing

Traps to capture marten alive are concealed in the ends of fallen logs, sites chopped out of rotten snags, or concealed in various other places known to be frequented by marten.

breeding stock of the more valuable British Columbia marten into the range of the Pacific type.

Additionally, Montana has considerable areas of suitable marten habitat which at present support very few or no marten. These include areas in which marten populations were decimated by over-trapping in earlier times and extensive burned areas on which regeneration of forest cover has progressed to a stage suitable for utilization by marten. If the results of pilot studies are favorable, restoration of these areas will be accomplished with transplants of the British Columbia marten.

Live trapping and tagging studies also provide information upon the value of large refuges or reserves in sustaining marten populations in surrounding areas. Glacier National Park and the Sun River Game Preserve are now being studied.

Traps used for the live-capture of marten are constructed of welded wire mesh and are of several sizes and types. The traps fold flat, and ten to fifteen, according to size, can be transported on a pack board.

To lure the marten to the vicinity of the trap, a scent composed of rotted fish, oil of catnip, oil of rhodium or other aromatic substance is used.

For all their small size, marten exhibit their own brand of ferocity. When cornered, they will scratch and bite viciously, regardless of size of the adversary.

Trussed up in a cone, marten are easily ear-tagged, weighed, aged, sexed and examined as to reproductive status.

The most satisfactory bait found to date is kippered herring, as this type of bait does not decompose rapidly and has a scent which is apparently attractive to marten.

Marten are not particularly wary animals and extreme care is not required in preparing the sets. Once the marten is captured, a wire cone is attached to the opening of the trap. The back of the trap is struck sharply to send the marten into the cone which is forced down around him.

When the marten is held securely in the cone, a small metal tag, serially numbered, is placed in each ear with a specially designed applicator. After the tags are affixed, the animal is weighed, sexed, aged, examined as to reproductive status and in movements studies, released.

In addition to marten, studies are being conducted on muskrats, beaver, mink, otter and wolverine. However, the emphasis of study is on the more important fur animals and those which are in low populations or face extinction in the state.

CHECKING STATION--500 FEET

Those bright red letters advise Montana hunters that the Fish and Game Department is interested in interviewing hunters, whether or not they have been lucky in the field, for their answers contribute invaluable information for use in managing the state's wildilfe.

During open hunting seasons, thirty stations operate near big game areas while four to eight temporary stations gather data on the upland game birds and migratory waterfowl on heavy hunting days.

Because the chief function of these stations is to obtain information on game in certain areas, they might more accurately be called "research centers."

Wherever possible, personnel on duty are trained biologists who can identify the hunter's waterfowl, tell him the age of his deer or offer other interesting information. Generally, the attendant can suggest a better hunting spot for the unlucky hunter, based upon game kills recorded.

For the most part, checking stations depend on the voluntary cooperation of hunters, the majority of whom prove helpful wherever posible. They will freely discuss their luck with the attendants, ask questions and answer the simple interview.

However, there are a few hunters

who react differently. They apparently feel that these stations are for one purpose only—"to catch Mr. John Hunter violating a game law," and, guilty or not, will speed by without a backward glance.

If these hunters were only aware that the future of their sport is favorably influenced by checking station reports, they would gladly cooperate by adding their information to compile more accurate reports!

For the individual hunter's contribution does not become just a statistic but rather, forms a part of the valuable working index needed to measure each year's hunting success.

For example, a definite kill figure is established for some big game regions and for the welfare of the herd, it is desirable to come as close to this figure as possible.

Age and sex classifications indicate whether hunting pressure is light or heavy and whether natural reproduction is maintaining the basic breeding stock needed for species perpetuation.

Although some stations remain open 24 hours a day to check heavy hunting traffic, the majority of hunters report between the hours of 6 and 10 p. m.

Migration information, mortality rates and life span are determined for various species of wildlife from the returns of ear tags on animals and leg bands on birds, many of which are collected at checking stations. Condition, size and the rate of reproduction are also determined. All of this information added to the field research work accomplished by the Fish and Game Department during the rest of the year, forms the foundations for determining future hunting seasons and bag limits.

Reporting at checking stations is a simple yet very important way that every hunter can contribute to the management of the wildlife he enjoys hunting and add to his own knowledge of the game and areas in which he hunts.

Most of Montana's checking stations are mobile and can be moved from area to area as hunting seasons or pressure demand.

Don't Lose Your Head-- If It's A Trophy!

Preservation of game trophies as a means of displaying a hunter's success and ability dates far back in history. Only the largest, finest heads are customarily preserved and subsequent quests for more magnificent specimens add even greater zest to the sport of hunting.

From the standpoint of the game manager, trophy hunters serve a beneficial purpose in harvesting older animals (often possessing the larger horns) which are no longer of value in maintaining a thrifty game herd. Of course, trophy hunters do not hunt for head and horns alone, for game laws require utilization of meat from any big game that is killed.

In the past, Montana has produced several record trophies which include the second largest mule deer head as well as several other species ranking among the top ten in the world. These are fifth place mountain lion and grizzly, a sixth place antelope and seventh place Rocky Mountain goat and big horn sheep. It seems highly probable that many Montanans have disregarded what might have been record trophies because they lacked information on the subject.

The mule deer head taken in Montana prior to 1907 and measuring 33¾ inches along the outside curve and 33¼ inches at the greatest spread, represents the largest trophy of this type in the United States. It may be seen at the National Collection of Heads and Horns in New York City. The world's largest record head for mule deer (see page 19) is privately owned in England.

Such removals have become the fate of many of America's finest trophies and today many record heads of North American game grace the trophy rooms of foreign countries, particularly England. Many other large, or perhaps record, heads are believed to lie unnoticed in attics of American homes.

Diagram shows where to cut animal's head for best cleaning and taxidermy results.

Efforts to unearth such old trophies and to record new ones are now being made by the Boone and Crockett Club of New York. Not only are world records being sought for native big game species but the Club hopes to locate the finest trophy of each species taken during current hunting seasons.

Because there is a possibility that record trophy animals are still being produced, the Boone and Crockett Club has asked hunters to report any large head and horn specimens.

Even if heads do not meet measurements of world record trophies, a report on any animal of unusual size or quality can be used as an index to determine which localities produce the best heads or will provide a yardstick for comparison of game animals of today with those of fifty or one-hundred years ago.

In addition, the Montana Fish and Game Department will issue certificates of honor for the best trophy animal of each game species hunted in the state. This will include mule and whitetail deer, elk, moose, antelope, bear and goat.

Contestants in the head and horn competition for certificates from the Montana Fish and Game Department must complete applications for their species similar to the sample data sheet for pronghorn antelope shown on page 20.

In Montana, official measurements may be taken by Dr. Phillip L. Wright at Montana State University, Dr. Don Quimby of Montana State College, or any biologist with the Montana Fish and Game Department.

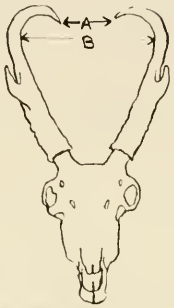
Entry blanks for other species are available from the Fish and Game Department.

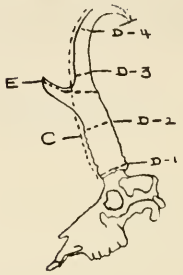
Montana hunters are urged to measure their own trophies for unofficial comparison within the state. Statistics submitted to the Montana Fish and Game Department will be publicized in a future issue of **Montana Wildlife.**

WORLD RECORDS — TROPHY HEADS

Species	Length of Outer Curve	Circum. of Main Beam	Greatest Spread	No. of Pts. Each Horn	Where Killed	Date Taken
Mule Deer	34	5	37 1/4	19-18	Wyoming	1886
Whitetail Deer	30 3/4	4 3/4	33 1/2	12-14	B. Columbia	1905
Columbian Blacktail (Coast) Deer	30 1/2	5	23 1/2	3- 3	California	1927
Arizona Whitetail	15 3/8	2 3/4	14 3/8	3- 3	Mexico	(prior to 1906)
Antelope	20 5/16	7	16 3/16		Arizona	1899
Elk (Wapiti)	64 1/2	8	52	7- 6	Wyoming	(prior to 1899)
Moose (Canadian)	37 1/4	8 1/4	73	15-14	Alberta	1922
Rocky Mn. Goat	12 1/2	5 1/2	7	(palm 12 1/4)	B. Columbia	(prior to 1916)
Grizzly Bear	(skull—16 1/2)				Alaska	1921
Black Bear	(skull—13 1/4)				Texas	1906
Mountain Lion	(skull 9 5/16)		(Nose to tail—96)		Colorado	1901
Bison (now protected)	22 3/8	14 7/8	35 3/8		Yellowstone Park, Wyo.	Natural death
Bighorn Sheep (now protected)	49 1/2	16 1/8	23 7/8		Canada	1920

OFFICIAL SCORING SYSTEM for North American BIG GAME TROPHIES





	Snppl. Data	Col. 1 Right Horn	Col. 2 Left Horn	Col. 3 Difference
A. Tip to Tip Spread				
B. Inside Spread of Main Beams IF Inside Spread of Main Beams exceeds longer horn length, enter difference				
C. Length of Horn				
D-1. Circumferenee of Base				
D-2 Circumference at 1st Quarter				
D-3. Circumference at 2nd Quarter				
D-4. Circumference at 3rd Quarter				
E. Length of Prong				
TOTALS				

ADD	Column 1 Column 2
SUBTRACT COLUMN 3	
FINAL SCORE	

Exact locality where killed .....
Date killed ..... By whom killed .....
Present owner .....
Address .....
Guide's Name and Address .....
Remarks: (Mention any abnormalities)

I certify that I have measured the above trophy on ..... 19 .....
at (address) ..... City ..... State .....
and that these measurements and data are, to the best of my knowledge and belief, made in accordance with the instructions given.
Witness: ..... Signature: .....

INSTRUCTIONS

All measurements must be made with a flexible steel tape to the nearest one-eighth of an inch. Official measurements cannot be taken for at least sixty days after the animal was killed. Please submit photographs.

Supplementary Data measurements indicate conformation of the trophy. Evaluation of conformation is a matter of personal preference.

A. Tip to Tip Spread measured between tips of horns.

B. Inside Spread of Main Beams measured at right angles to the center line of the skull at widest point between main beams.

C. Length of Horn measured from lowest point in front over outer curve to a point in line with tip.

D-1. Measured around base of horn at right angles to axis. DO NOT follow irregular edge of horn.

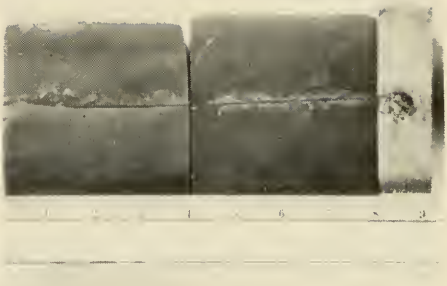
D-2-3-4. Divide measurement of LONGER horn by four, mark BOTH horns at these quarters even though the other horn is shorter, and measure circumferences at these marks. If the prong occurs at approximately D-3, take this measurement immediately above the swelling of the prong.

E. Length of Prong—measure from tip along upper edge on outer curve to point in line with back of horns determined by an edge touching both horns.

Watch That Ricochet!

Dangers of ricocheting bullets can never be over-emphasized. Wise hunters, recognizing the risk of shooting at a flat, hard surface or a water area, will avoid targets in these surroundings or try for a better shot from another angle.

The self-explanatory photographs of gelatin blocks reproduced on this page through courtesy of Olin Industries, Inc., show the dangerous unpredictable path of glancing bullets.

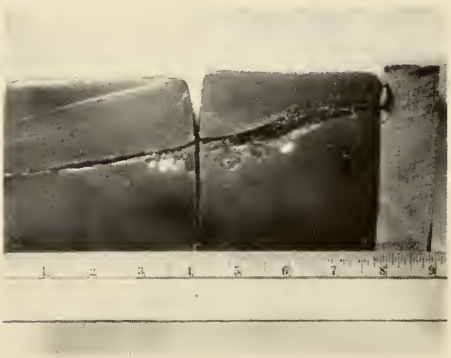


Normal penetration of unimpeded bullet.

Rock forces bullet to deviate and go "wild."

Compare rock ricochet with normal bullet.

Bullets fired over or at water often "skip" changing direction of missle, reducing power.



Gelatin block shows how a bullet glancing off a water surface takes an upward direction.

Proper Care Insures Better Wild Meat

If you prefer beefsteak to venison or elk steak because you find the "gamey" taste of wild meat unpalatable, it would be a safe bet that your game animal was not properly killed, adequately cleaned or well-prepared.

Correct dressing and a few imaginative culinary tricks offer the successful hunter not only a rare taste treat, but make a sizeable reduction in the family meat budget. The actual cookery remains a matter of individual taste, but the basic know-how of dressing an animal will preserve a maximum of the naturally good flavor of wild meat.

The best game meat comes from an animal that has not been running or frightened too much and killed with a clean shot. Also remember, it is illegal and poor economy to waste game meat so don't lose the cripples.

Necessary equipment for dressing includes a small meat saw or sharp hunting axe and knife, 15 feet of ¼ inch rope, heavy cord and wiping cloths.

Approach your downed game carefully. Sometimes an animal is only dazed and reflex actions could mean a bad accident. It is generally unnecessary to stick the animal as internal bleeding will usually drain the blood unless it has been shot in the neck or head.

Dress the carcass immediately for animal heat and bacteria can spoil meat in a few hours or seriously affect the flavor. Open the stomach cavity by a careful cut starting at the base of the tail and extending to the breast bone. Then open the neck and remove the windpipe to prevent souring.

Do not cut the intestines or other viscera. Tie off rear gut and cut, then cut diaphragm and remove lungs and heart. Carefully saw or chop through pelvic bone and remove rear gut and anus, and in female animals, the genitals. Evidence of sex for either male or female animals must be retained in the dressing process.

Wipe the body cavity with cloth—don't use water. Save the liver, heart, tongue, kidney and brain to cook.

Thorough cooling of the carcass is imperative for good flavor. Skin and quarter the meat as soon as possible by cutting down the backbone and between the second and third rib from the rear. Use a meat saw or sharp axe.

Remove any bloodshot meat and hang the remainder in muslin sacks or rub the surface with blood to form a glaze when it is dry.

If quartering is impossible, the animal should be hung or elevated to allow air to circulate freely around and under the entire body. Good circulation will prevent the meat from spoiling.

Loading game in or on a car away from air and transporting it during the heat of the day certainy will not improve the flavor.

If the meat must be carried any distance, be sure it will get plenty of air and arrange your travel time after sundown. Dragging meat even short distances is not advisable, but if necessary, allow the meat to cool and set before moving. If animal must be dragged, make only small cuts in the body cavity to avoid getting the meat dirty.

Cooling meat is MOST IMPORTANT. Diagram shows how one man can elevate animal to allow maximum circulation.

Big game should hang about ten days at 35 to 40 F. before cutting it up into standard meat cuts. This allows body enzymes to work on muscle and tenderize the tissues. Meat will not age when frozen.

The large quantity of meat that a single animal provides can be stored best in meal-sized parcels at commercial storage or in home freezing units. Plastic paper, foil or a double wrap of heavy meat wrapping paper will protect it.

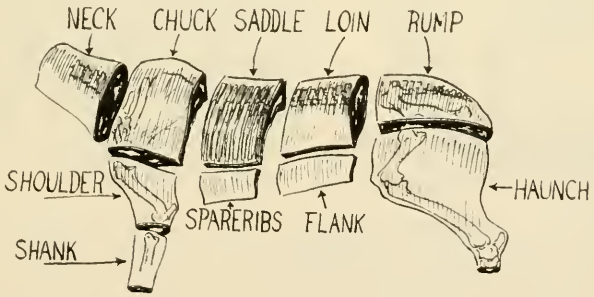


Diagram above shows the hunter one of the many ways to butcher game. Do a good job. Clean meat thoroughly with cloths (don't use water.) Cut away excess fat and tissue, wrap and store in freezing unit. If the hide is not wanted, sell or give it to someone who can use it.

Ten Rules For Hunting and

1. Treat every gun with the respect due a loaded gun.
2. Carry only empty guns, taken down or with the action open, into your automobile, camp and home.
3. Always be sure that the barrel and action are clear of obstructions.
4. Always carry your gun so that you can control the direction of the muzzle even if you stumble.
5. Be sure of your target before you pull the trigger.
6. Never point a gun at anything you do not want to shoot.
7. Never leave your gun unattended unless you unload it first.
8. Never climb a tree or a fence with a loaded gun.
9. Never shoot at a hard flat surface or the surface of water.
10. Do not mix gunpowder and alcohol.

GUNS ARE VERY DANGEROUS WHEN IN CARELESS HANDS! RECOGNIZE THE DANGER. OBEY THE 10 COMMANDMENTS OF SAFETY.

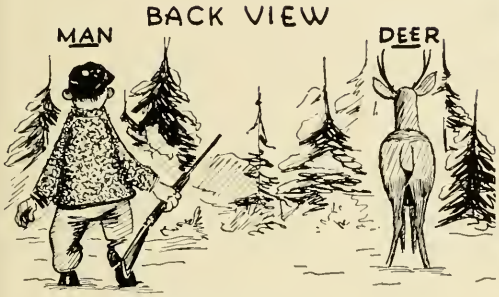
Homo sapiens

CHARACTERISTICS

1. TWO ARMS
2. TWO LEGS
3. NO ANTLERS
4. WILL WEAR CLOTHING SIMILAR TO YOURS.

PLEASE NOTE THAT THERE IS NO TAG ON YOUR LICENSE FOR THIS MAMMAL. REGULATIONS PROHIBIT SHOOTING THIS CREATURE DURING ANY SEASON OF THE YEAR.

Shooting Safety



SIDE VIEW

WHEN HUNTING FEVER IS SEVERE, HE MAY APPEAR AS A GAME ANIMAL TO EVEN THE MOST EXPERIENCED HUNTER. YOU TOO COULD BE WRONG.

UNDER ORDINARY CONDITIONS IT REQUIRES BUT LITTLE EFFORT TO DISTINGUISH MAN FROM OTHER ANIMALS, <u>BUT</u>

SO IF YOU . . .

1. Never take a chance with a gun—Don't risk lives
2. Shoot clean, kill clean, or miss clean
3. Don't waste wild meat (to do so is a law violation)
4. Observe and assist in the enforcement of game laws
5. Respect the property and rights of others and leave a clean camp
6. Prevent fires—The forests and prairie are the homes of wild animals—Protect our natural beauty and resources

. . . YOU ARE A GOOD SPORT AND A HAPPIER HUNTER!

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